2WIRE ®

2Wire Gateway Installation Guide

For 1000 Series

Installing and Configuring the Gateway

Windows 98/SE/2K/ME/XP and Macintosh OS 10.2

Congratulations on the purchase of your 2Wire gateway. To install your gateway and configure your network, follow these steps.

Note: Features for different models may vary. Product details will be specified for each particular model.

Note: TO MAC OS 9.X AND OTHER OPERATING SYSTEM USERS. Users running Mac OS 9.X and operating systems other than those stated above must perform a manual configuration of the gateway. Refer to Appendix C for step-by-step instructions.

Insert the 2Wire Setup Wizard CD and follow the on-screen instructions

Do *NOT* install any equipment until instructed by the CD during your installation.

Enter key code

If you were provided with a 20-digit key code by your service provider, enter it when prompted. If you were not provided with a key code, refer to Appendix E.

Add computers to your network

Insert the 2Wire Setup Wizard CD into the CD-ROM drive of each computer that you wish to connect to your network and follow the on-screen instructions.

The Home Page

When your installation is complete, the gateway home page will display. Use this page to perform a variety of administrative functions for easy management of your local network. From this page you can:

- Upgrade your gateway software

- View your network settings

- Change wireless network settings

- Modify the security settings for your broadband connection
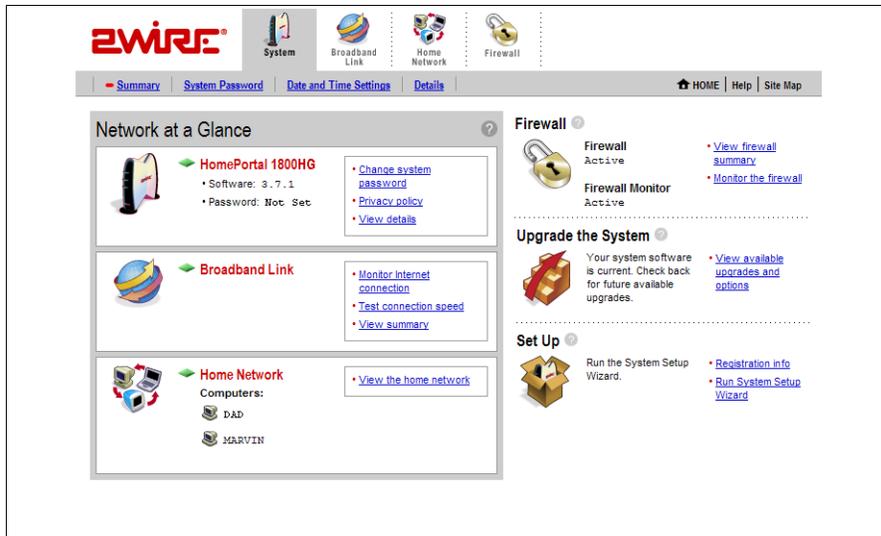
Accessing the Home Page

There are several ways you can access the gateway home page:

- Click on the ⎓ icon on your desktop, or

- Open a browser and type http://gateway.2Wire.net

Troubleshooting

Diagnosing Connection Problems

This section describes some connection problems you may encounter with your local network and provides suggestions for solving those problems. If the problem you are having is not covered here or in the 2Wire online Help system, or if the suggestions provided do not solve the problem, contact your service provider's Technical Support.

For more detailed information on the gateway indicator and status lights, see Appendix B of this guide.

The POWER indicator light is off

If the **POWER** indicator light is off, the gateway is not getting power:

1. Check to see if the power cable is plugged into the power outlet or power strip.

2. If the power cable is plugged into a power strip, make sure the power strip is turned on.

3. Make sure the power cord is correctly and securely connected into the gateway.

> **Note:** If the **POWER** indicator light is red (signifying a system error), or does not light after performing the steps above, contact Technical Support.

The BROADBAND LINK indicator light is red

If the **BROADBAND LINK** indicator light is red, the gateway has not established a connection to your broadband service provider:

1. Verify that the phone cable is properly connected to the **PHONE LINE** port on the gateway.

2. Verify that you have configured the gateway with the correct settings (for example, username and password) provided by your service provider.

3. Verify that your DSL service is activated by calling your service provider.

The BROADBAND LINK indicator light is orange

If the **BROADBAND LINK** indicator light is orange, the gateway is not properly configured. Re-install the software and verify that the correct username and password are being used.

The LOCAL NETWORK indicator light is off

If your networked computers are powered on and the **LOCAL NETWORK** indicator light is off, the gateway may not have been connected correctly. Verify that all cables are properly connected and reboot the computer.

Running the 2Wire Setup Wizard Manually

If after one minute the Setup Wizard does not automatically run:

Windows Users: Double-click the **My Computer** icon located on the desktop.

      Double-click the icon that corresponds to your CD-ROM drive.

      Double-click **Setup.exe** and follow the on-screen instructions.

Mac Users: Double-click the **2Wire** icon.

      Double-click the **2Wire Setup** Wizard icon.

Verifying That Your PC Adapter Driver is Installed Correctly

There are two common errors that may occur during installation that will result in an error message:

· The appropriate adapter driver software was not installed.

· The adapter driver software was only partially installed or is incompatible with your system.

Follow the procedure appropriate to your system to determine whether the driver was correctly installed.

Windows XP: 1. Click **Start** and click **Control Panel**.

      2. Double-click the **System** icon.

      3. Select the **Hardware** tab, then click **Device Manager**.

      Continue to step 4 under Accessing Driver Status on page 5.

Windows 2000: 1. Click **Start >Settings** and click **Control Panel**.

      2. Double-click the **System** icon.

      3. Select the **Hardware** tab and click **Device Manager**.

      Continue to Step 4 under Accessing Driver Status on page 5.

Windows 98 SE or Windows ME:

      1. Click **Start >Settings** and click **Control Panel**.

      2. Click the **System** icon.

      3. Select the **Device Manager** tab.

      Continue to Step 4 under Accessing Driver Status on page 5.

Accessing Driver Status

1. Click the "+" sign next to the **Other devices** and/or **Network adapters** categories to expand them. This displays a list of all adapters and/or devices that you have installed. Check to see if your adapter is marked with a yellow question mark (driver not installed) or exclamation point (incomplete driver installation or driver not compatible with the operating system).

    IMPORTANT: If your adapter or device does not appear in the list, it may not be properly installed. Reinstall the adapter according to the appropriate documentation.
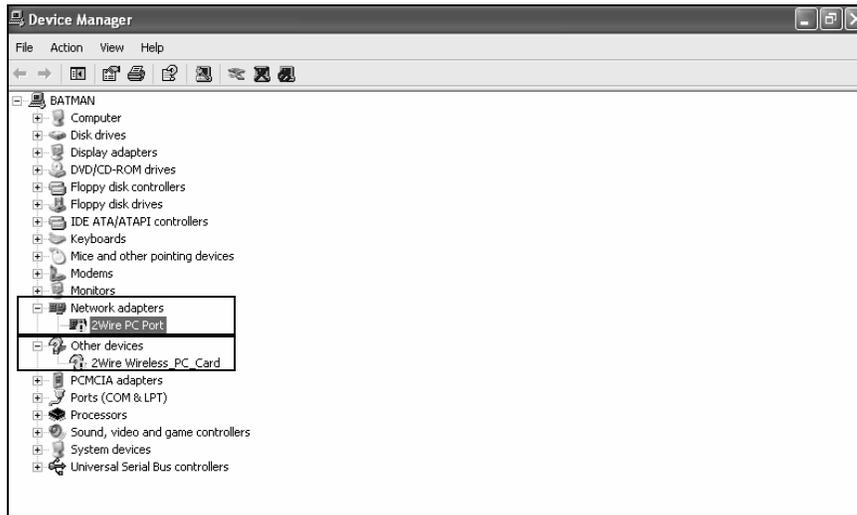
If the USB driver for direct USB connection between the gateway and your PC has not been installed, one of the following names will appear in the **Other devices** category (the name that displays is dependent on your operating system):

–   2Wire USB Remote NDIS Ethernet

–   2Wire Gateway USB

2. Double-click the adapter name highlighted with a yellow question mark or exclamation point.

3. Click the **Reinstall Driver** button to reinstall the driver for your adapter from the CD.

4. After you have reinstalled the driver, click the **RETRY** button on the Setup Wizard adapter troubleshooting screen.
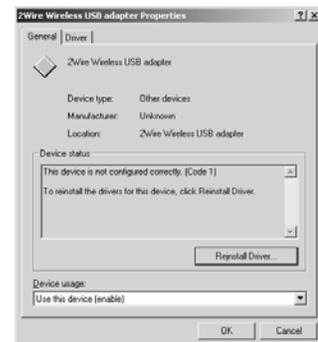
Configuring Wireless Adapters

2Wire Wireless Adapters

> **Note:** The 2Wire 1070 and 1070-B gateways do not include wireless support. If you are using a 2Wire 1070 or 1070-B gateway, skip this section.

If you use a 2Wire wireless adapter (PCI, PC card, or USB adapter) for wireless networking, the gateway installation software automatically configures it to communicate with the gateway during setup.
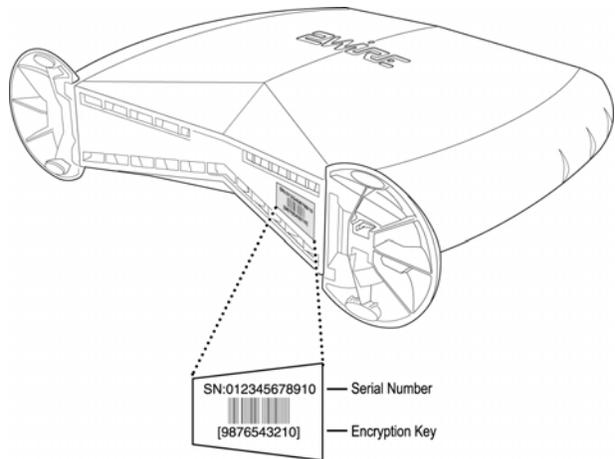
Non-2Wire Wireless Adapters

If you are *NOT* using a 2Wire wireless adapter, you will need to manually configure your adapter of choice to communicate with the gateway using the information below.

Locating the Serial Number and Wireless Encryption Key

Your gateway is configured with unique security parameters that must be configured into your wireless adapter: the serial number and a default 64-bit WEP wireless encryption key. You will find these two important pieces of information on the bottom of your gateway.

SN:012345678910 — Serial Number

[9876543210] — Encryption Key

Adapter Configuration

After you have located the serial number and wireless encryption key, configure your wireless adapter according to instructions provided with that product.

1. Set the network type to Infrastructure. Refer to your wireless adapter documentation for instructions on editing the adapter's network profile. Your wireless adapter should be configured to operate with an access point or residential gateway. This mode of operation is typically enabled by setting network type to Infrastructure.

2. Set the wireless network name. The wireless network name of your gateway is 2WIRE in all capital letters, followed by the last three digits of the gateway serial number located on the bottom of your gateway. For example, if the last three digits of your gateway serial number are 102, your gateway network name would be **2WIRE102**.

    The wireless network name is sometimes referred to as the Network Name, SSID, ESS ID, or Wireless LAN ID.

3. Enable wireless security. Your gateway is pre-configured to take advantage of wireless security. Referring to the instructions provided with your wireless adapter, enable wireless security.

    The default wireless security used by the gateway is sometimes referred to as WEP (wired equivalent privacy), 64-bit encryption, or 40-bit encryption.

4. Enter the encryption key. Once you have enabled security on your wireless adapter, you need to enter the unique security key for your gateway. To do this, set the network encryption type to hexadecimal, and enter your 10-digit wireless encryption key found on the bottom of your gateway.

   IMPORTANT NOTE TO MAC OS X USERS: You must enter the "$" character at the beginning of the 10-digit wireless encryption key. For example, if the wireless encryption key is 1234567890, enter "$1234567890". Doing so indicates to the OS that the key is in hexadecimal format.

5. In general, accept your adapter's defaults. The default value for the remainder of configurable settings for your network adapter should allow your wireless adapter to communicate with the gateway. Although the gateway is set by default to communicate using channel 6, it is not required to change your adapter to this setting as most adapters will automatically detect the appropriate channel.

Appendix A: Connecting Your Computer Using USB

Connecting your computer to the gateway using USB requires an available USB port. Only one Windows or Macintosh computer can be directly connected to the 2Wire gateway using the USB connection.

IMPORTANT NOTE: The 2Wire 1070-B gateway does not include USB support. If you are using a 2Wire 1070-B gateway, skip this section.

Installing the Gateway and USB Driver on a Windows PC

With your computer powered off and the 2Wire Setup Wizard CD still in the CD-ROM drive, connect the provided blue USB cable from the USB port on the 2Wire gateway to your computer's USB port. A USB port is identified by the following icon:
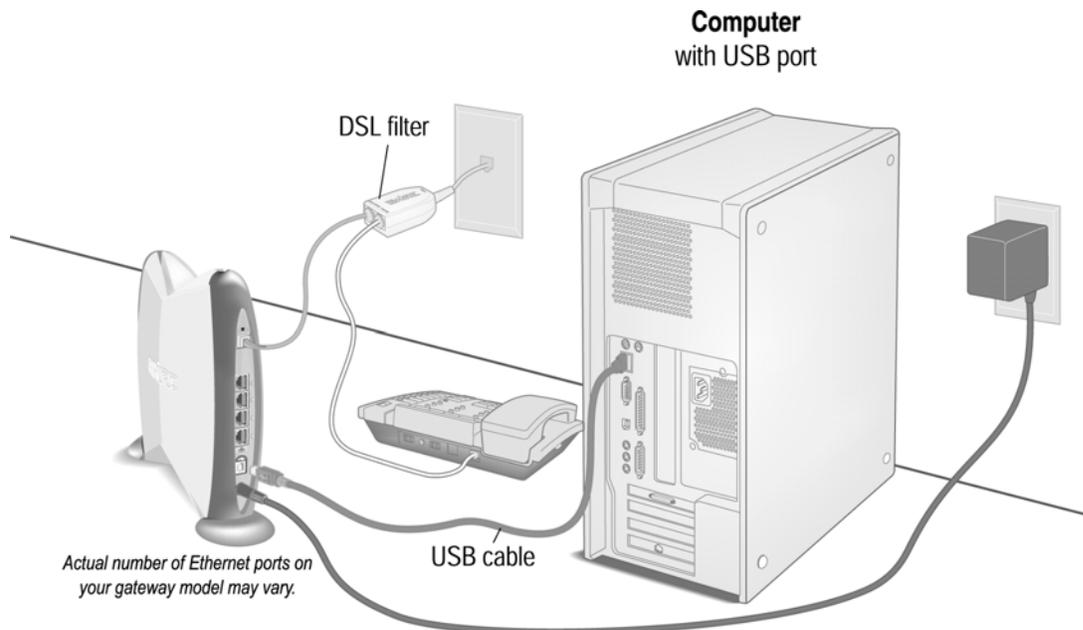
To complete your USB connection to the gateway, you must install the 2Wire gateway USB driver on your computer.

1. Power on your computer. If the Add Hardware Wizard displays, follow the on-screen instructions selecting recommended default settings. If prompted to identify where to search for drivers, deselect **Floppy Disk drive** and check **CD-ROM drive**.

2. After the driver installs click **Finish** to complete the driver installation. The Setup Wizard will resume when your PC has rebooted.

    NOTE TO WINDOWS 98 USERS: Microsoft Windows 98 users may be prompted to insert the Windows 98 installation CD-ROM after installing the 2Wire gateway USB drivers. Once the Windows 98 updates are complete, remove the Windows 98 CD and reinsert the Setup Wizard CD into your CD-ROM prior to rebooting your PC.

Installing the Gateway and USB Driver on Macintosh Computers Running OS 10.2

Before making your USB connection to the gateway, you must install the 2Wire gateway USB driver on your computer. The following instructions are for USB installation on Macintosh computers running OS 10.2.

1. With your computer powered on and the 2Wire Setup Wizard CD still in the CD-ROM drive, double-click the **2Wire CD** icon on your desktop.

2. Double-click **2Wire USB** to begin the driver installation.

3. If you have set up an administrator name and password, the Authenticate screen opens. Enter your administrator name and password and click **OK**.

4. Follow the on-screen instructions. When the driver installation is complete, you will be prompted to restart your computer.

5. After your computer restarts, connect the provided blue USB cable from the USB port on the 2Wire gateway to your computer's USB port. A USB port is identified by the following icon:

6. Open the network Control Panel and select the **Apple icon > System Preferences… > Network**.

7. Verify that **Ethernet Adaptor (en1)** is selected in the Show field. If not, select it from the pull-down menu. When the New Port Detected message displays, click **OK**.

    Your Macintosh computer usually names the gateway USB port as (en1) automatically. If your computer has more than one Ethernet-like network device installed, the USB port may be named (en2) or higher.

8. Click **Save** to complete your installation.

9. IMPORTANT: Restart the 2Wire Setup Wizard to resume your installation process:

    –   Double-click the **2Wire CD** icon.

    –   Double-click the **2Wire Setup Wizard** icon and follow the on-screen instructions to configure your gateway to the Internet.

Appendix B: Indicator and Status Lights

The gateway has three indicator lights that can be used to diagnose installation and connection problems. The following tables describe how to interpret the POWER, BROADBAND LINK, and LOCAL NETWORK lights.
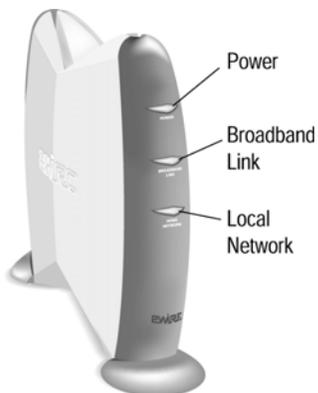
Power light	Operating state
OFF	The gateway is not getting power.
Blinking green	The gateway is booting up.
Solid green	Power is on.
Solid red	System error. Contact Technical Support.

Broadband Link light	Operating state
OFF	No broadband signal is present. The gateway is not plugged into a power outlet, or the gateway is not physically connected to your broadband service.
Blinking orange	The gateway is attempting to establish a physical broadband connection.
Solid red	The gateway has not detected a broadband signal.
Solid orange	The gateway has established a physical broadband connection but was not able to successfully connect to your Internet Service Provider, or has not yet been configured.
Blinking green	The gateway is attempting to establish a connection to your broadband service(s).
Solid green	The gateway is fully connected to your broadband service(s).

Local Network light	Operating state
OFF	The gateway is not plugged into a power outlet, computer, or hub by way of HomePNA[1], USB[2], Ethernet, or Wireless[3].
ON	The gateway is connected to a computer or hub by way of HomePNA[1], USB[2], Ethernet, or Wireless[3].

1. The 2Wire 1070, 1070-B, and 1700HG gateways do not include HomePNA.
2. The 2Wire 1070-B gateway does not include USB.
3. The 2Wire 1070 and 1070-B gateways do not include wireless support.

Appendix C: Installing the Gateway on Other Operating Systems

Follow these instructions if you are using an operating system that is not supported by the Setup Wizard CD (such as any Macintosh OS prior to 10.2, UNIX, or Linux).

Install your DSL phone filters

(New DSL customers only - Existing DSL customers with filters already installed should proceed to "Connect your first computer to the gateway" on page 12.)

Why do I need filters on my phones?

Regular telephone and Digital Subscriber Line (DSL) signals are carried over the same line. Converting your regular telephone line to DSL can cause high-pitched tones and static to be present when talking on the phone.

Installing a filter on every telephone or telephone device sharing the same telephone number as your DSL, separates these signals and eliminates the noise.

How do I install DSL filters?

1. Locate the phone jack where you want to connect your gateway.

2. Insert the DSL filter into the jack.

3. If you have a phone, answering machine, fax machine, satellite TV equipment, or other phone device in this jack location, plug it into the filter port labeled **PHONE**.

This is a phone jack in your house

4. Now, install a DSL filter on ALL other phone devices in your house.
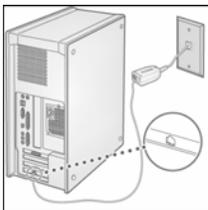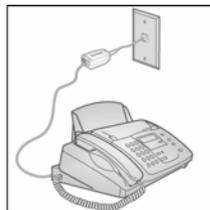
Dial-Up Modems   **Fax Machines**   **Caller ID Devices**   **TV Set Top Boxes**
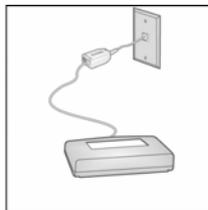
Plug each of these devices into the filter port labeled **PHONE**.

What if I have a wall-mounted phone?

If you have a wall-mounted telephone, install a wall-mount DSL filter following the instructions below. If you do not have a wall-mounted phone, continue to "Connect your first computer to the gateway" on page 12.

To install a wall-mount DSL filter:
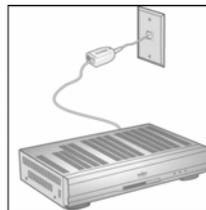
1. Lift the telephone from the wall pegs and disconnect the phone cord from the wall jack.

2. Connect the telephone cord from the back of the DSL filter into the wall jack. Align the keyhole slots on the filter with the wall plate pegs and press down gently to secure.

3. Connect the telephone cord to the phone jack located on the front of the mounted filter.

4. Attach the telephone to the mounting pegs on the DSL filter and your installation is complete.
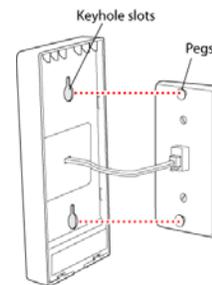
Note: The extra phone jack located at the bottom of the filter (labeled **LINE**) is provided should you wish to connect your gateway at this phone connection.

Connect your first computer to the gateway

There are many ways to set up your network, but typically the first computer is located in the same room as the gateway and your DSL connection. Ethernet is the preferred connection method for your first computer, although instructions for connecting via USB are also provided.

To begin your gateway installation:

1. Remove the gateway, power adapter, and cables from the gateway box.

2. Connect the provided power adapter from the gateway's **POWER** port to an electrical outlet.

3. Connect the provided gray phone cable from the gateway's **PHONE LINE** port to the DSL filter jack labeled **DSL/HPNA**.

Proceed to the Ethernet or USB connection instructions beginning on the following pages.

Connecting your computer to the gateway using Ethernet:

Actual number of Ethernet ports on your gateway model may vary.
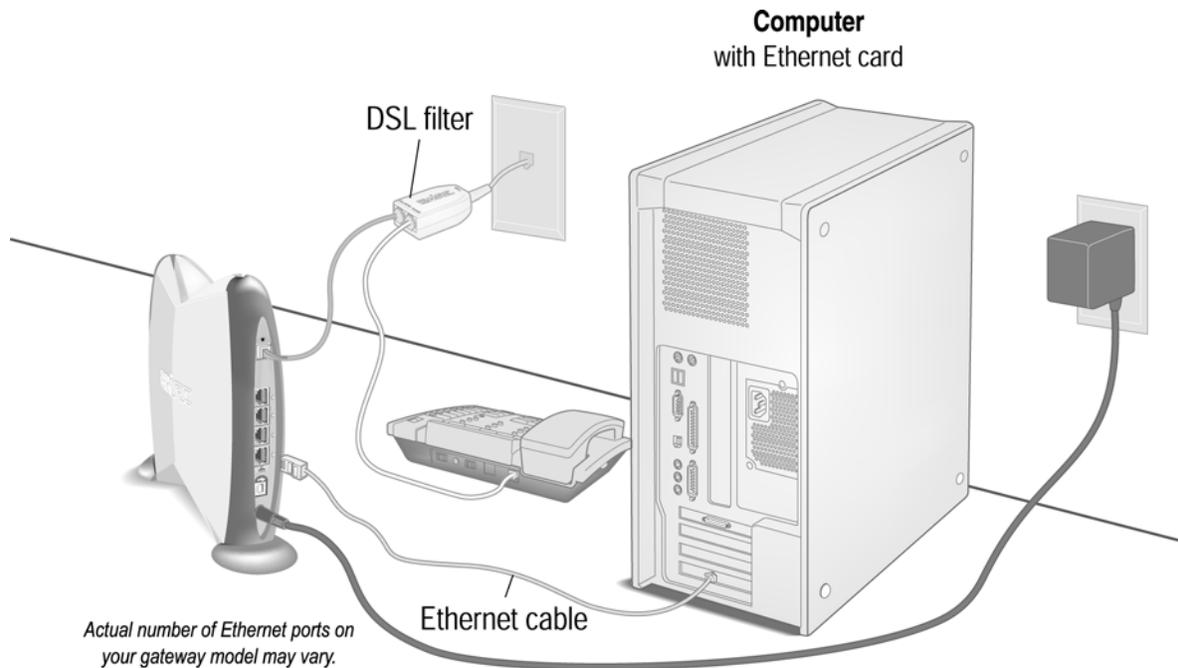
1. Connect the provided yellow Ethernet cable from the gateway's **LOCAL ETHERNET** port to your computer's Ethernet port.

2. Proceed to "Configure your Internet connection" on page 15 to configure your Internet connection.

Connecting your computer to the gateway using USB and installing the 2Wire USB driver on computers running other Windows operating systems:

Connecting your computer to the gateway using USB requires an available USB port. Only one Windows or Macintosh computer can be directly connected to the 2Wire gateway using the USB connection. Refer to page 8 for instructions.

Connecting your computer to the gateway using USB and installing the 2Wire USB driver on Macintosh computers running OS 9.X:

Connecting your computer to the gateway using USB requires an available USB port. Only one Windows or Macintosh computer can be directly connected to the 2Wire gateway using the USB connection.

1. With your computer powered on and the 2Wire Setup Wizard CD still in the CD-ROM drive, double-click the **2Wire CD** icon on your desktop.

2. Double-click **2Wire USB** to begin the driver installation.

3. If you have set up an administrator name and password, the Authenticate screen opens. Enter your administrator name and password and click **OK**.

4. Follow the on-screen instructions. When the driver installation is complete, you will be prompted to restart your computer.

5. After your computer restarts, connect the provided blue USB cable from the **USB** port on the 2Wire gateway to your computer's USB port. A USB port is identified by the following icon:
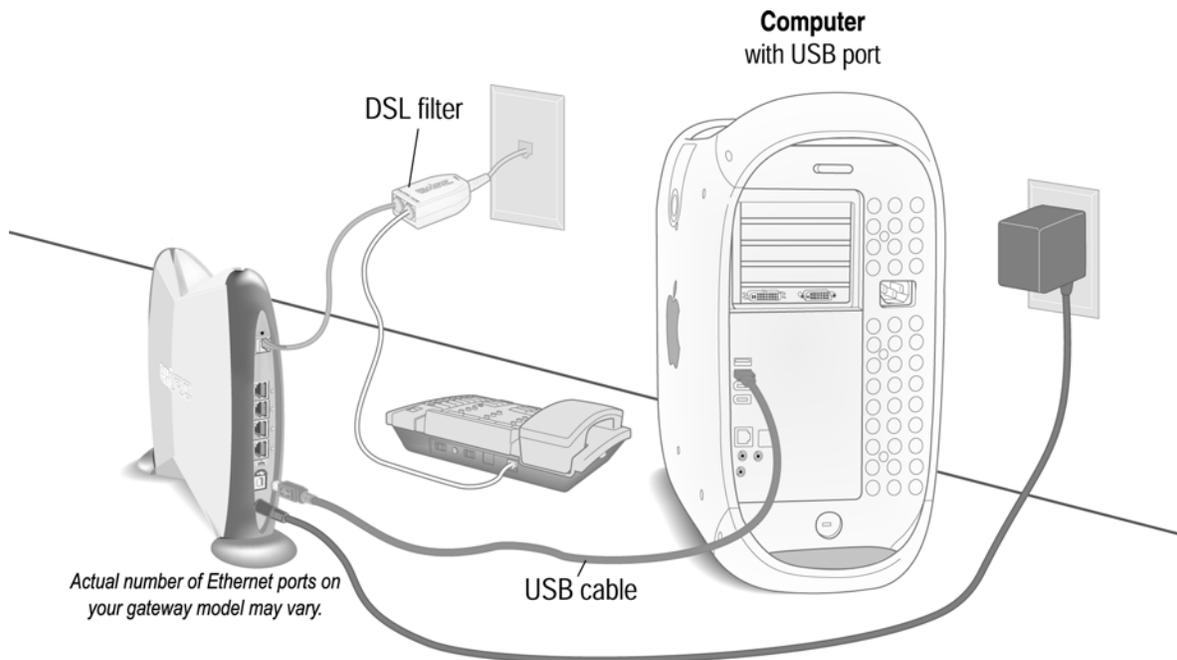
6. Open the network Control Panel by selecting the **Apple icon > Control Panel > TCP/IP**.

7. Verify that **Connect Via: 2Wire USB Remote NDIS…** is selected to set the network adapter as active.

8. Click **Save** to complete your installation.

9. Proceed to "Configure your Internet connection" on page 15 to configure your Internet connection.

Configure your Internet connection

Now that your first computer is connected to the gateway, you need to configure your gateway to communicate with your particular Internet service provided.

To activate your Internet account:

1. Open your Internet browser.

2. Type http://gateway.2wire.net/setup into the browser's address line.

3. When prompted to enter a key code, select the appropriate key code from the table on page 1, enter it into the key code field, and click **NEXT**.

4. Select your Local Time Zone and click **NEXT**.

5. You may be prompted to enter service provider information such as username and password. Enter any required service provider information and click **NEXT**.

6. The connection process will begin. During this process the **BROADBAND LINK** light on the front of the gateway will first blink green then turn solid green. This step could take up to five minutes as the gateway searches for your broadband service.

7. The gateway will now connect to the Internet. This process may take several minutes. Once connected, click the **REGISTER** button and complete the 2Wire registration process.

Congratulations! Your gateway setup is now complete.

Add computers to your network

You can connect additional computers to your network by following these steps.

1. Depending on the method you choose to connect your additional computers, install the adapter and driver. Choices include Ethernet, HomePNA, or wireless. For specific instructions, refer to the documentation that came with your adapter.

2. Connect your additional computer to the network.

    –   If you are using an Ethernet adapter, connect an Ethernet cable from your adapter to an available Ethernet port on the gateway.

    –   If you are using a HomePNA adapter, connect a phone cable from your adapter to the phone jack.

    –   If you are using a wireless adapter, refer to the documentation that came with your adapter and the instructions on page 6.

3. Repeat the above steps for each computer you wish to add to your network.

Appendix D: Technical Specifications

Local Network Interfaces

- Ethernet, HomePNA[1], USB[2], Wireless 802.11b/g[3]

Standards Compatibility

- ADSL G.dmt (ITU G.992.1) (inner or outer pair)

- ANSI TI.413 (inner or outer pair)

- HomePNA 2.0 (10 Mbps) and 1.0 (1 Mbps)

- USB 1.1

- TCP/IP, DHCP, and DNS (client/server for DHCP and DNS)

- VPN pass-through with PPTP, L2TP, and IPSec

- PPPoE, PPPoA (RFC 2364), and RFC 2684

- Ethernet 802.3

- Wi-Fi 802.11b/g wireless

Requirements

- All devices to be connected to the gateway must have a network interface compatible with the model of gateway used.

- A direct USB connection is supported on the following operating systems:

  – Windows 98SE, ME, 2000, XP

  – Mac OS 9.X or Mac 10.2

- Setup CD supports the following operating systems:

  – Windows 98, 98 Second Edition, ME, 2000, XP

  – Mac 10.1 or higher

- Web Browser: Netscape 7.1, Microsoft Internet Explorer 5.5 or higher.

Physical Specifications

1070, 1070-B	**1700 and 1800**
Dimensions: 6" x 7" x 2.25"	Dimensions: 10" x 8" x 2"
Weight: 0.8 lbs.	Weight: 1.4 lbs. (approx.)

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1. The 2Wire 1070, 1070-B, and 1700HG gateways do not include HomePNA.
2. The 2Wire 1070-B gateway does not include USB.
3. The 2Wire 1070 and 1070-B gateways do not include wireless support.

Appendix E: Back-Up Key Codes

In most cases, you will receive a key code from your ISP. This key code is used to activate the 2Wire gateway. If you did not receive a key code, you can use the key codes provided in the following table.

If your Internet Service Provider did not provide you with a user name, password, or IP address to set up your Internet connection, your broadband connection most likely uses DHCP (Dynamic Host Configuration Protocol) and you should use this key code.	52EU-2374-2262-22AT-B222
If your Internet Service Provider gave you a PPPoE username and password to set up your Internet connection, your broadband connection uses Point-to-Point Protocol over Ethernet and you should use this key code.	52EU-2374-6262-22AS-B22Y
If your Internet Service Provider assigned you an IP address to set up your Internet connection, your broadband connection uses static IP (Internet Protocol) and you should use this key code.	52EU-2374-2E66-22AS-B2TW
If your Internet Service Provider gave you a PPPoA username and password to set up your Internet connection, your broadband connection uses Point-to-Point Protocol over ATM. In this case, you would use this key code and Microsoft Dial-up Networking to connect to the Internet.	52EU-2374-A222-22AS-B2QK

Regulatory Information

Declaration of Conformity

Trade Name: 2Wire

Responsible Party: 2Wire, Inc.

Address: 1704 Automation Parkway
                          San Jose, CA

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

· Reorient or relocate the receiving antenna.

· Increase the separation between the equipment and the receiver.

· Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

· Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Only peripherals (computer input/output devices, terminals, printers, and so forth) that comply with FCC Class B limits may be attached to this computer product.

Operation with noncompliant peripherals is likely to result in interference to radio and television reception.

All cables used to connect peripherals must be shielded and grounded. Operation with cables, connected to peripherals that are not shielded and grounded may result in interference to radio and television reception.

WARNING: While this device is in operation, a separation distance of at least 20 cm (8 inches) must be maintained between the radiating antenna inside the ERU and the bodies of all persons exposed to the transmitter in order to meet the FCC RF exposure guidelines. Making changes to the antenna or the device is not permitted. Doing so may result in the installed system exceeding RF exposure requirements. This device must not be co-located or operated in conjunction with any other antenna or radio transmitter. Installers and end users must follow the installation instructions provided in this guide.

FCC Part 68

This equipment complies with Part 68 of the FCC rules. On the bottom of this equipment is a label that contains, among other information, the FCC equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

The REN is used to determine the quantity of devices that may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five. To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.

If the terminal equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operations of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this equipment, please contact the store, reseller, or agent from whom the product was purchased.

Repair of this equipment should be made only by the 2Wire Service Center or a 2Wire authorized agent.